

Humble Behaviorism or Equal Doses of Skepticism?

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Neuringer's Humble Behaviorism calls for behavior analysts to consider the benefits of humility as a goal. He appeals to behaviorists to be more tentative in their methodological and theoretical positions, to consider alternatives, and to realize that all knowledge is subject to change. This is a welcomed theme. An I'm right/You're wrong perspective is disheartening, damaging to the image of behavior analysis held by other scientists, and probably as responsible for the misinterpretations of behavior analysis as any single variable.

Going beyond this general theme, Neuringer discusses a number of critical issues. The experimental analyses of seemingly subjective phenomena, covert verbal behavior, linguistics, private experimentation, and randomness concern many behavior analysts. They are occasions for the field to try to expand the scope of what can be understood and to consider the value of other methods and models of inquiry.

These examples, however, also illustrate that what others label as dogmatism alternatively can be described as skepticism, and an assumption that established theories, principles, and methods should be used to account for phenomena unless shown not to work. Neuringer acknowledges the role of skepticism in a number of places, but his emphasis on humble behaviorism might be too strong. That the knowledge obtained through science is provisional, should be well accepted. To abandon basic skepticism and a reluctance to accept alternative classifications of phenomena, though, would be to abandon what provides precision and scope to our understanding of the world. Certainly behavior analysts could entertain more philosophic doubt about the kind of science to which they adhere, but in doing so they should continue to be skeptical about the concepts,

themes, and methods of inquiry used by others. In what follows, I try to emphasize the role of skepticism in the context of studying one of the examples that Neuringer addressed, covert verbal behavior.

Intersubjectivity, Covert Behavior, and Skepticism

Neuringer calls for more humility with respect to studying those events that have traditionally been called subjective. One of his examples of a subjective event is an individual observing a sensation in a tooth and claiming it as pain. The observation and the claim are both made by the same individual and no independent observation is possible. Twelve individuals observing a sensation in their teeth and hearing the word "pain," however, is intersubjective. The twelve can be independently asked to describe their observations of both the sensation and the auditory signal, and agreement can be assessed.

Through this example Neuringer demonstrates a critical feature of behavior analytic skepticism. Covert behavior can be studied, but if one wants to convince behavior analysts, then the measurement of covert behavior has to meet a stringent criterion of intersubjectivity. Humble behavior analysts are not likely to say that there *is* "empirical evidence for stating that feelings, thoughts, and images have little or no independent causal role in the generation of overt behaviors," but they should be doubtful about the evidence concerning whether such covert events *have* a causal role.

An example that clearly pinpoints the need for this skepticism is the study of covert verbal behavior, especially when there are attempts to make the behaviors overt through self reports. Lately, behavior analysts have been trying to develop strategies for studying self reported rules

and the possible effects that these rules have on other behavior. A number of problems, however, have been revealed (Chase & Danforth, 1991; Critchfield & Perone, 1990; Ericsson & Simon, 1984; Hayes, 1986; Reese, 1989; Shimoff, 1984, 1986). Usually the verbal behavior and its relation with other behavior is one of many relations that exist. Even though verbal behavior may be correlated with other behavior, the direction of the relation is typically unclear. The verbal behavior also may be inconsistent with what the subject was doing, a direct distortion of what the subject was doing, or simply wrong.

The silent dog strategy (Ericsson & Simon, 1984; Hayes, 1986; Hayes, Zettle, & Rosenfarb, 1989; Hineline & Wanchisen, 1989) is one set of conditions used to counter the problem of consistency between self reports and independent observations of the subjects' behavior. Self reports often are obtained by asking subjects questions about their behavior, usually their nonverbal behavior. The silent dog strategy describes a set of conditions used to evaluate the verbal behavior. First, one must demonstrate that asking the subject questions does not influence their other behavior. The experimenter determines this by asking questions of some subjects and not others and finding similar nonverbal behavior. Second, one must demonstrate that the subjects' verbalizations are task relevant by giving these verbalizations as instructions to other subjects and showing changes in the nonverbal behavior that are consistent with the behavior obtained from the first two groups of subjects. Finally, other variables are manipulated that should disrupt the nonverbal behavior. If disruptions occur, then the only explanation for not finding differences in nonverbal behavior among the first three groups is that the verbalizations were part of the relation seen.

The silent dog criteria allow one to say that the verbalizations obtained were related to the nonverbal behavior, but they do not establish the direction of the relation. Results from such conditions could still be interpreted as the nonverbal be-

havior controlling the verbal behavior; subjects may engage in a particular behavior under particular contingencies, and *then* describe the relation between behavior and contingencies. It is not yet clear how any methodology concerning self reported rules and other behavior could establish the direction of the relation. It is also possible that aspects of the environment, such as the contingencies of reinforcement, control both the nonverbal and the self reports. The conditions do not eliminate contingency control and thus further manipulations seem required.

Chase and Danforth (1991) described one such set of manipulations. First, the silent dog strategy could be used to make sure that the self reported behavior is consistent with the nonverbal behavior it purportedly controls. Second, the contingencies that are consistent with the self reported rule could be changed to determine whether the behavior continues to occur as if the contingencies had not changed (Hayes, Brownstein, Zettle, Rosenfarb, & Korn, 1986; LeFrancois, Chase, & Joyce, 1988; Matthews, Shimoff, Catania, & Sagvolden, 1977). This manipulation of the contingencies allows one to judge the extent to which the contingencies control the behavior. If there is still no change in the nonverbal behavior, then one has evidence that the contingencies do not control the behavior.

The above analysis illustrates some of the reasons behavior analysts have been skeptical of research that has claimed covert verbal control of other behavior; studying these relations requires complicated experiments. Further requirements such as careful analysis of the response requirements, stability requirements, sequencing of conditions, length of conditions, naivete of the subjects with respect to the experimental task, and the obtained results are necessary before these studies are convincing (Joyce & Chase, 1990; Perone, Galizio, & Baron, 1988; Wanchisen, Tatham, & Mooney, 1989). It seems safe to say that few, if any, studies have had the kinds of control necessary to allow a convincing argument that

the covert verbal behavior of the subjects was responsible for the other behavior under study. Similarly, I would argue that even though a scientist does not have to "ignore data because she or he cannot also see (what the subject is describing)," the scientist ought to be aware of the possible distortions to which these self reports may be susceptible. This statement is not dogmatic, just skeptical.

Similarity and Skepticism

An alternative view of the role of covert verbal behavior has been that it serves functions similar to other environmental events and, therefore, does not need to be classified separately. Covert verbal behavior may be involved in a sequence of events that is critical to the occurrence of another behavior, and, thus, one can describe covert verbal behavior as causal. But the kind of causal variable is difficult to determine as illustrated above. If one assumes that covert verbal behavior serves similar functions as overt verbal behavior, especially the overt verbal behavior of another organism, then one can conduct intersubjectively verifiable studies of the effects of manipulating the verbal behavior of another person on the behavior of interest (e.g., instructional control). The findings of such research can then be generalized to the effects of covert verbal behavior. The question remains as to why one would assume that self reported rules control one's other behavior in the same ways as the overt rules of another individual. This assumption is consistent with another aspect of skeptical science, the search for similarity.

Science can be described as a process of classification and, therefore, involves a search for like phenomena. This aspect of science is explicit in some of the more influential methodological themes in behavior analysis. For example, Sidman (1960) claimed that scientists should look for "orderly relations among phenomena" and that "the highest form of integration occurs when one recognizes similarities in the relevant variables" (p. 15). Neuringer also demonstrates the strength

of the similarity assumption in science when he contrasts research strategies that adhere to Occam's razor and Lloyd-Morgan's canon with those that assume that the organism under study can do what the experimenter can do. Though Neuringer claims that the former is a case of a simplicity and the latter, of similarity, both demonstrate the strong assumption that events are considered similar until shown to be different. The use of a series of proofs or demonstrations of how a few variables can be used to account for one's findings, suggests emphasizing the similarities across findings. Strategies that lead to attempts at disproof always assume a null hypothesis, which indicates a skepticism of purported differences among phenomena. Such research may be motivated by finding differences, but if none are found then the orientation is to leave the original classification intact.

The concern that behavior analysts have about covert behavior can be shown to be directly related to this similarity feature of science. The skeptical behavior analysts asks, "how can I classify something that cannot be observed?" And this question has been answered in two ways within behavior analysis. Either do not classify the event that cannot be observed (methodological behaviorism) or claim that the unobserved event is similar to that which can be observed until shown otherwise (radical behaviorism). Both stances reject classifying the phenomenon in some way that is new or inconsistent with what can be observed. Both stances are skeptical, requiring more evidence, more precision in prediction and control of behavior before new principles are adopted. Both stances can be categorized as being tentative and conservative in expanding the scope of what we understand.

Conclusion

This reply might be dismissed as losing the forest for the trees. The point of Neuringer's article was to demonstrate the need for the humility in our science and the point of the reply was to quibble about the relative emphasis of humility versus

skepticism. It occurs to me that skepticism ought to go hand in hand with humility; one needs to exercise an equal dose of skepticism for one's own assumptions as for those of others. This seems to be Neuringer's point. His paper also suggests how careful a skeptical scientist has to be to appear humble. Words like ought and should, though scattered liberally through this reply, might be best changed to more tentative phrases.

These conclusions remind me that a teacher I had in graduate school, Howard Gadlin, also held these views. Howard challenged the basic tenets, assumptions, and world views of his students, and taught the importance of a humble, skeptical science. He also strongly reacted against the dogmatism displayed by behaviorists; he did not think behavior analysts entertained sufficient philosophical doubt. The coincidence is that Howard Gadlin and Allen Neuringer grew up in the same neighborhood, played together, went to the same schools, and had similar early experiences. One became a critical theorist within psychoanalysis, the other became a behavior analyst. But both have maintained a stance on humble science that is appealing and worthy of close attention. I have to wonder what was happening in their neighborhood to produce such profound similarity in the face of such seemingly different theoretical orientations. As an educator, and at the risk of appearing less than humble, I wonder how we could replicate those conditions to help produce this kind of behavior in others.

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